

# Claims

- [c1] 1. A high density semiconductor package, comprising:  
a substrate, having a surface;  
a first package module, being disposed on the surface of the substrate; and  
four second package modules, being disposed on the surface of the substrate surrounding the first package module.
- [c2] 2. The high density semiconductor package as claimed in claim 1, wherein a gap width between the second package modules and the first package module is larger than 2 mm.
- [c3] 3. The high density semiconductor package as claimed in claim 1, wherein the first package module comprises:  
a chip;  
a plurality of bumps located between the chip and the substrate; and  
an underfill located between the chip and the substrate and enveloping the bumps.
- [c4] 4. The high density semiconductor package as claimed in claim 1, wherein each of the second package modules

comprises:

a chip;

a plurality of bumps located between the chip and the substrate; and

an underfill located between the chip and the substrate and enveloping the bumps.

[c5] 5. A high density semiconductor package, comprising:  
a substrate having a surface;  
a first package module, being disposed on the surface of the substrate; and  
four second package modules, being disposed on the surface of the substrate surrounding the first package module, wherein a gap width between the first package module and the second package modules is large enough to fill an underfill material therein.

[c6] 6. The high density semiconductor package as claimed in claim 5, wherein the gap width between the second package modules and the first package module is larger than 2 mm.

[c7] 7. The high density semiconductor package as claimed in claim 5, wherein the first package module comprises:  
a chip;  
a plurality of bumps located between the chip and the substrate; and

an underfill located between the chip and the substrate and enveloping the bumps.

[c8] 8. The high density semiconductor package as claimed in claim 5, wherein each of the second package modules comprises:

a chip;

a plurality of bumps located between the chip and the substrate; and

an underfill located between the chip and the substrate and enveloping the bumps.

[c9] 9. The high density semiconductor package as claimed in claim 5, wherein the first package module is arranged substantially orthogonal to the second package modules.

[c10] 10. The high density semiconductor package as claimed in claim 5, wherein the first package module is arranged substantially non-orthogonal to the second package modules.

[c11] 11. A high density semiconductor package, comprising:  
a substrate, having a surface;  
a first package module, being disposed on the surface of the substrate; and  
a plurality of second package modules, being disposed on the surface of the substrate surrounding the first

package module, wherein a corner of each of the second package modules face a side of the first package module.

- [c12] 12. The high density semiconductor package as claimed in claim 11, wherein a gap width between the second package module and the first package module is larger than 2 mm.
- [c13] 13. The high density semiconductor package structure as claimed in claim 11, wherein the first package module is arranged coplanar with the second package modules.
- [c14] 14. The high density semiconductor package as claimed in claim 11, wherein the first package module comprises:
  - a chip;
  - a plurality of bumps located between the chip and the substrate; and
  - an underfill located between the chip and the substrate and enveloping the bumps.
- [c15] 15. The high density semiconductor package as claimed in claim 11, wherein each of the second package modules comprises:
  - a chip;
  - a plurality of bumps located between the chip and the substrate; and

an underfill located between the chip and the substrate and enveloping the bumps.

- [c16] 16. A high density semiconductor package at least comprising:
- a substrate, having a surface;
  - a first package module, being disposed on the surface of the substrate; and
  - at least one package module, being adjacent to the first package module with a gap width between the first package module and the second package modules being large enough to fill an underfill material therein.
- [c17] 17. The high density semiconductor package as claimed in claim 16, wherein the gap width between the second package module and the first package module is larger than 2 mm.
- [c18] 18. The high density semiconductor package as claimed in claim 16, wherein the first package module is coplanar with the second package module.
- [c19] 19. The high density semiconductor package as claimed in claim 16, wherein the second package module are disposed on the surface of the substrate.
- [c20] 20. The high density semiconductor package as claimed in claim 16, wherein the first package module comprises:

a chip;  
a plurality of bumps located between the chip and the substrate; and  
an underfill located between the chip and the substrate and enveloping the bumps.

[c21] 21. The high density semiconductor package as claimed in claim 16, wherein the second package module comprises:

a chip; and  
a plurality of bumps located between the chip and the substrate; and  
an underfill located between the chip and the substrate and enveloping the bumps.

[c22] 22. The high density semiconductor package as claimed in claim 16, wherein the first package module is arranged substantially orthogonal to the second package module.

[c23] 23. The high density semiconductor package as claimed in claim 16, wherein the first package module is arranged substantially non-orthogonal to the second package module.